ORDER NO. AD8905129C8

Service Manual

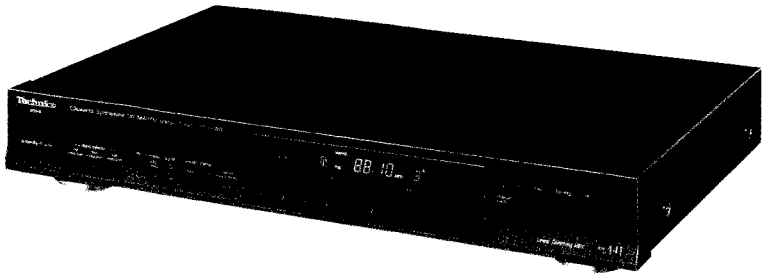
Tuner

QUARTZ Synthesizer
LW/MW/FM Stereo Tuner

ST-G460L

Color

(K)...Black Type



Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	(K)
(EF)	France	(K)

SPECIFICATIONS

(DIN 45 500)

■ FM TUNER SECTION

Frequency range	87.50~108.00 MHz
	87.525~108.00 MHz (+25 kHz shift)
Sensitivity	1.5 µV (IHF, usable)
S/N 30 dB	1.3 µV (75 Ω)
S/N 26 dB	1.2 µV (75 Ω)
S/N 20 dB	0.9 µV (75 Ω)
IHF 46 dB stereo quieting sensitivity	28 µV/75 Ω
Total harmonic distortion	
MONO (normal)	0.05 %
STEREO (normal)	0.1 %
S/N	
MONO	72 dB (80 dB, IHF)
STEREO	65 dB (73 dB, IHF)
Frequency response	4 Hz~15 kHz, +0.5 dB~−1.0 dB
Alternate channel selectivity	
±400 kHz	65 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	55 dB
IF rejection at 98 MHz	90 dB
Spurious response rejection at 98 MHz	80 dB
AM suppression	55 dB
Stereo separation	
1 kHz	50 dB
10 kHz	40 dB
Carrier leak	
19 kHz	−55 dB (−60 dB, IHF)
38 kHz	−40 dB (−45 dB, IHF)
Channel balance (250 Hz~6,300 Hz)	±1.0 dB
Limiting point	0.85 µV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW	522 kHz~1611 kHz (9-kHz steps)
	530 kHz~1620 kHz (10-kHz steps)
LW	155 kHz~353 kHz (9-kHz steps)
	153 kHz~351 kHz (−2-kHz shift)
Sensitivity (S/N 20 dB)	
MW	20 µV, 300 µV/m
LW	50 µV
Selectivity (±9 kHz)	
MW (at 999 kHz)	50 dB
LW (at 254 kHz)	50 dB
Image rejection	
MW (at 999 kHz)	40 dB
LW (at 254 kHz)	40 dB
IF rejection	
MW (at 999 kHz)	60 dB
LW (at 254 kHz)	35 dB

■ GENERAL

Output voltage	0.3 V (0.6V IHF)
Power consumption	9 W
Power supply	AC 50 Hz/60 Hz, 240V
Dimensions (W × H × D)	430 × 69 × 288 mm
	(16-15/16″ × 2-23/32″ × 11-11/32″)
Weight	2.5 kg (5.5 lb.)

Note:
Specifications are subject to change without notice. Weight and dimensions are approximate.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

ST-G460L

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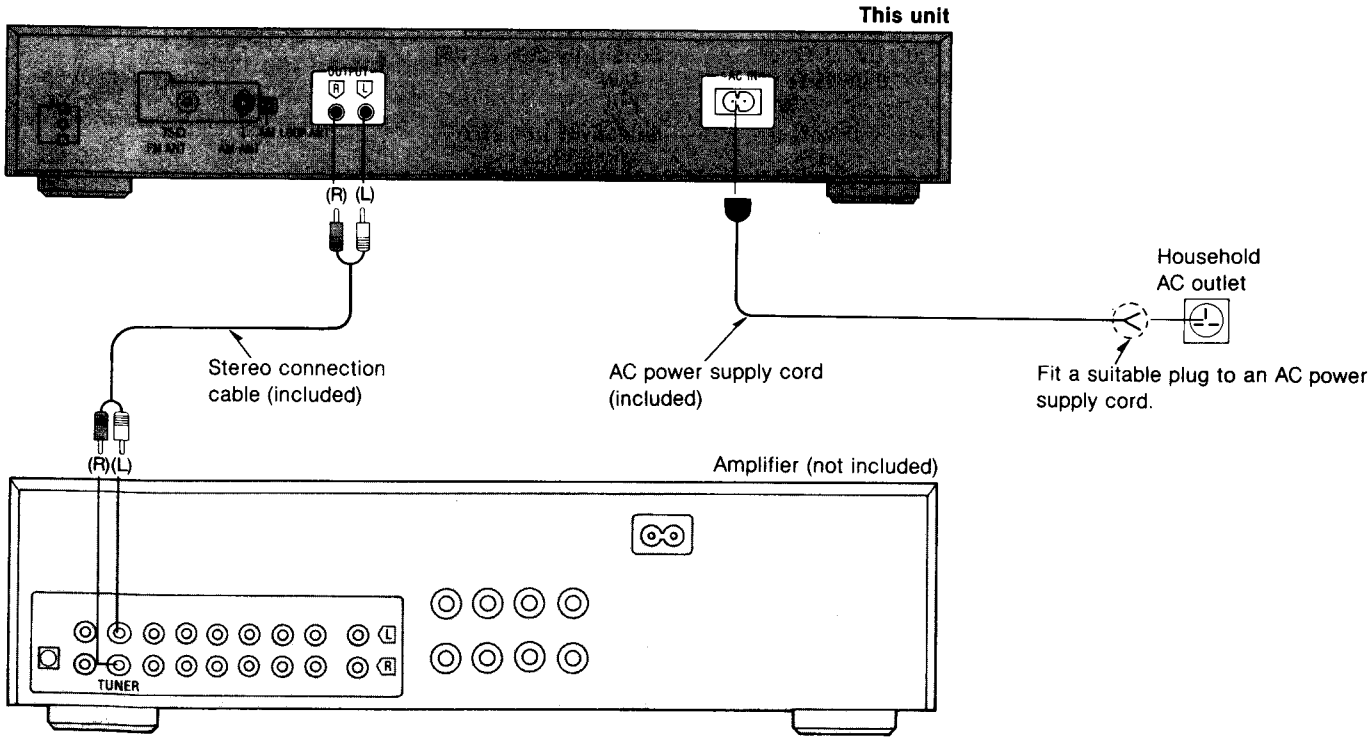
■ ACCESSORIES

- Stereo connection cable (SJP2276) 1
- FM indoor antenna (SSA270M) 1
- AM loop antenna (SPB1162T) 1
- AM antenna holders (SMA233-1M) 1
  (SMA231M) 1
- Screws (XTB3+10AFZ) 2
- Attachment plug (SJP9009 for [EB] area only) 1
- AC power supply cord 1
  For [EB] area only (SJA193)
  For others areas (SFDAC05E03)

■ CONNECTIONS



ORDER NO. AD8905129C8-A

Tuner

ST-G460L

DEUTSCH

■ MESSUNGEN UND EINSTELL METHODEN

■ LW/MW/FM

Einstellungen der Bedienelemente und zu verwendende Geräte.

- MW und UKW Meßsender (MW und UKW Nebsender)
- Stereo-Modulator
- Verzerrungs-Analystator
- Elektronische Wechselstrom-und Gleichstrom-Voltmeter (EVM)
- Keramischer Kondensator (200pF)
- Oszilloskop
- Frequenzzähler
- Drosselspule (100μH)
- Widerstand (100KΩ)

Anmerkung: Für **Z202**, **L303** und **L304**, werdeven justiert Ersatzteil geliefert. Dien Kern dieses Teils daher nicht drehen.

MW-HF-JUSTIERUNG

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Stellen Sie die Einheit auf "**MW**" Betrieb.
3. Radio und Signalgenerator auf **612kHz** einstellen.
4. Radio und Signalgenerator auf **1503kHz** einstellen.
5. **Z201** (AM-Antennenspule) auf maximale Ausgangsleistung abgleichen.
6. Die Schritte 3~5 wiederholen.

Anmerkung:
Der Antenneneingang-Signalpegel muß so niedrig wie möglich und frei von automatischer werstärkungsregelung (AGC) sein.

LW-HF-JUSTIERUNG

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Stellen Sie die Einheit auf "**LW**" Betrieb.
3. Die Radiofrequenzanzeige und den Messender auf **155kHz** einstellen.
4. Die Radiofrequenzanzeige und den Messender auf **353kHz** einstellen.
5. **Z201** (LW-Antennenspule) auf maximale Ausgangsleistung abgleichen.
6. Die Schritte 3~5 wiederholen.

Anmerkung:
Der Antenneneingang-Signalpegel muß so niedrig wie möglich und frei von automatischer werstärkungsregelung (AGC) sein.

UKW-MONO-VERZERRUNGS-JUSTIERUNG

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Stellen Sie die Einheit auf "**FM (UKW)**" Betrieb.
3. Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4. Den Kern von **T101** so justieren, daß die im Signalzustand gemessene Spannung **0mV (0±20 mV)** im 300 mV-Bereich beträgt.
5. **T102** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
6. Schritte 4 und 5 einige Male wiederholen.
7. Versichern Sie sich, daß die Verzerrungsfaktoren von Kanal L und Kanal R annähernd gleich sind und auf ein Minimum gehalten sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

MPX-SGO-JUSTIERUNG

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Den UKW-Bertriebsart-Wahlshalter in die "**on/auto**" Position stellen.
3. Radio und Meßsender auf **100.10MHz** einstellen.
4. **VR302** auf **19kHz±30Hz** auf der Frequenzzähleranzeige justieren.

• VERWENDUNG EINES ALTERNATIVSYSTEMS

1. Stereosignal vom Meßsender eingeben oder eine Stereo-Sendung empfangen.
2. **VR302** justieren, bis die Stereo-Anzeige aufleuchtet. Den Arm von **VR302** mit Lack sichern, wie in der Abbildung gezeigt.

TRENNUNGS-JUSTIERUNG

1. Der Testaufbau ist in der Abbildung gezeigt.
2. Stellen Sie die Einheit auf "**FM**" Betrieb.
3. Die Radiofrequenzanzeige und den Messender auf **100.10 MHz** einstellen.
4. **VR301** so justieren, daß der R-Ausgang minimal ist, wenn der Stereomodulator im L-Betriebszustand (Linker Kanal moduliert) ist.

FRANCAIS

■ MEAURAGES ET REGLAGES

■ LW/MW/M.F.

Positionnements des commandes et équipement utilisé

- Générateur de signaux AM et FM (AM et FM- SG)
- Modulateur stéréophonique
- Analyseur de distorsion
- Oscilloscope
- Compteur de fréquence
- Bobine d'amortissement d'arrêt (100μH)
- Résistance (100kΩ)
- Condensateur céramique (200pF)
- Voltmètre électronique à C.A. et C.C. (EVM).

Nota: Pour **Z202**, **L303** et **L304**, des éléments réglés sont fournis. Aussi, ne pas tourner les noyaux de ces pièces.

REGLAGE DE A.M.-H.F.

1. Le raccordement de l'équipement d'essai est montré sur l'illustration.
2. Régler l'appareil sur le mode "**MW**".
3. Régler le cadran radio et le générateur de signaux sur **612kHz**.
4. Régler le cadran radio et le générateur de signaux sur **1503kHz**.
5. Régler **Z201** (bobine ANT A.M.) pour une sortie maximale.
6. Répéter les étapes 3~5.

Nota:
Le niveau d'entrée d'antenne doit être aussi bas que possible étant libéré de commande automatique de gain.

REGLAGE DE RE-LW

1. Le raccordement de l'équipement d'essai est montré sur l'illustration.
2. Régler l'appareil sur le mode "**LW**".
3. Régler le réglage de l'affichage de radiofréquence et du générateur de signaux sur **612kHz**.
4. Ajuster le réglage de l'affichage de radiofréquence et du générateur de signaux sur **353kHz**.
5. Régler **Z201** (bobine ANT LW) pour une sortie maximale.
6. Répéter les étapes 3~5.

Nota:
Le niveau d entrée d'antenne doit étre aussi bas que possible étant libéré de la commande automatique de gain.

REGLAGE DE DISTORSION MONOPHONIQUE M.F.

1. Le raccordement de l'équipement d'essai est montré sur l'illustration.
2. Régler l'appareil sur le mode "**FM**".
3. Régler le réglage de l'affichage de radiofréquence et du générateur de signaux sur **100.10MHz**.
4. Ajuster le noyau de **T101** de telle sorte que la tension mesurée sur le mode de signaux soit de **0mV (0± 20 mV)** dans une plage de 300mV.
5. Ajuster **T102** de telle que le facteur de sistorsion du canal de gauche soit minimisé.
6. Répéter les étapes 4 et 5 quelques fois.
7. S'assurer que les facteurs de distorsion du canal de gauche et du canal droite soient sensiblement les mêmes et au minimum.

Nota:
Le tournevis de réglage utilisé devra être fait en résines.

REGLAGE MULTIPLEX DE L'OSCILLATEUR COMMANDE PAR VARIATION DE TENSION

1. Le raccordement de l'équipement d'essai est montré sur la figure.
2. Régler l'appareil sur la position "**on/auto**".
3. Régler le cadran radio et le générateur de signaux sur **100.10MHz**.
4. Ajuster **VR302** pour **19kHz±30Hz** sur le compteur de lecture de fréquences.

•EN UTILISANT UN SYSTEME ALTERNATIF

1. Applique un signal stéréo à partir du générateur ou recevoir une émission stéréo.
2. Ajuster **VR302** jusqu' à ce que l'indicateur stéréo séclaire. Coller le bras de **VR302** comme il montré sur la figure.

REGLAGE DE SEPARATION

1. Le raccordement de l'équipement d'essai est montré sur l'illustration.
2. Régler l'appareil sur le mode "**FM**".
3. Ajuster le réglage de l'affichage de radioféquence et du générateur de signaux sur **100.10 MHz**.
4. Ajuster **VR301** de telle sorte que la sortie de droite soite minimisée lorsque le modulateur stéréo est sur le mode "**G**". (modulation de canal de gauche.)

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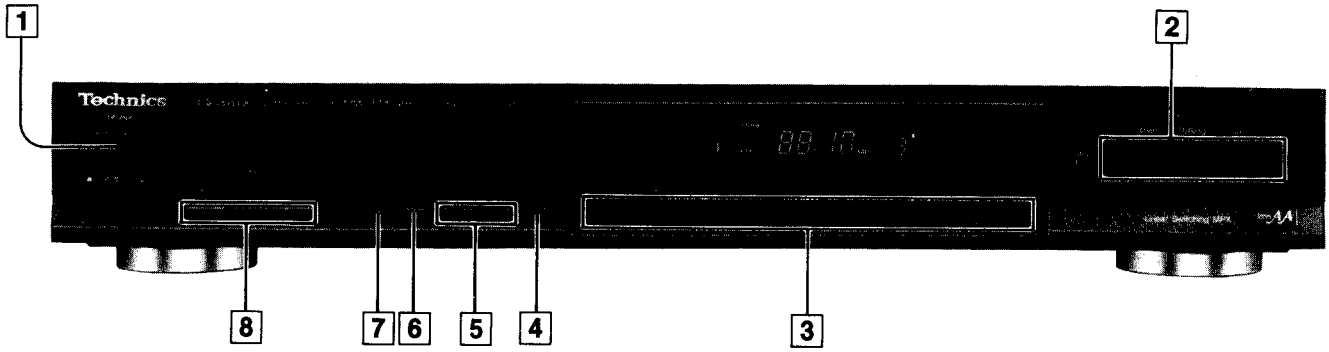
F890501950FF/TW/YY

■ LOCATION OF CONTROLS

Control section



1 **Power "standby ⏻/on" switch (power "standby ⏻/on")**

2 **Tuning buttons (tuning)**

3 **Preset-tuning buttons (1 – 0) (39 channel random preset tuning)**

4 **Memory button (memory)**

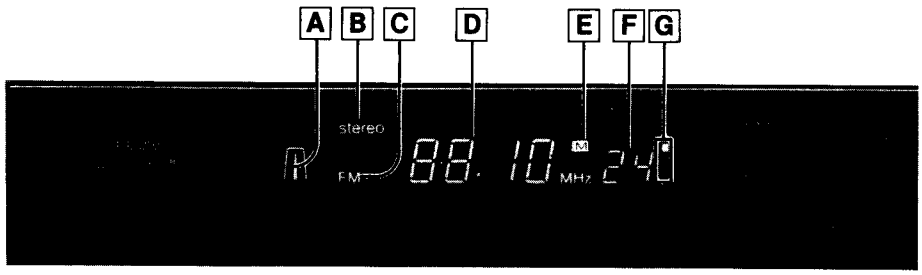
5 **Preset channel buttons (preset channel)**

6 **FM signal-strength indication button (FM-signal)**

7 **FM mode selector (FM-mode)**

8 **Band selectors (band selector)**

Display section



A **Quartz-lock indicator (|)**

B **FM stereo indicator (stereo)**

C **Band indicator (band)**

D **Digital frequency display**

E **Memory indicator (M)**

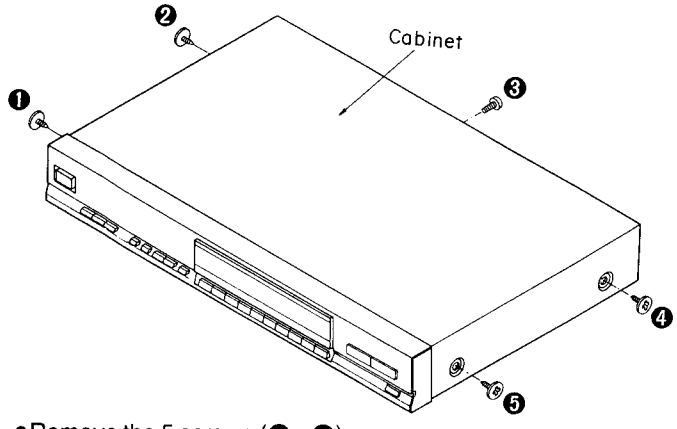
F **Channel display (channel)**

G **FM mode indicator (FM mode)**

※The operating procedures and features are similar to those for and of the ST-G450L.

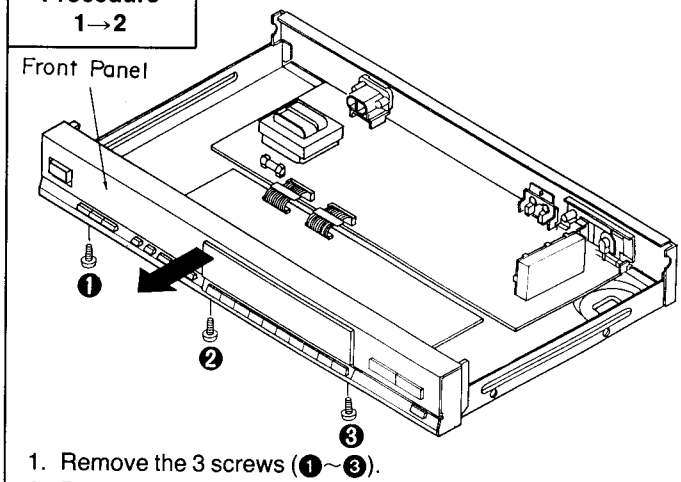
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the cabinet
Procedure 1	



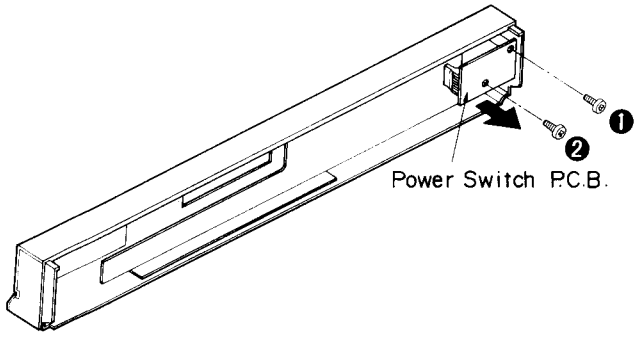
●Remove the 5 screws (❶~❺).

Ref. No. 2	Removal of the front panel
Procedure 1→2	



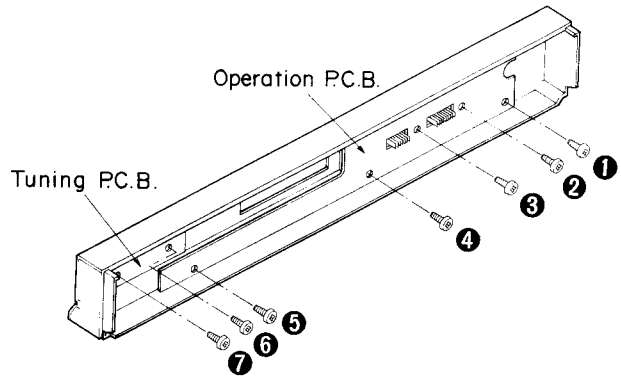
1. Remove the 3 screws (❶~❸).
2. Remove the front panel in the direction of the arrow.

Ref. No. 3	Removal of the power switch P.C.B.
Procedure 1→2→3	



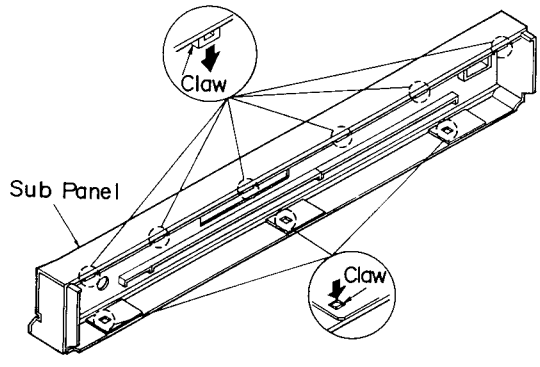
1. Remove the 2 screws (❶, ❷).
2. Remove the power switch P.C.B. in the direction of the arrow.

Ref. No. 4	Removal of the operation P.C.B. and tuning P.C.B.
Procedure 1→2→3→4	

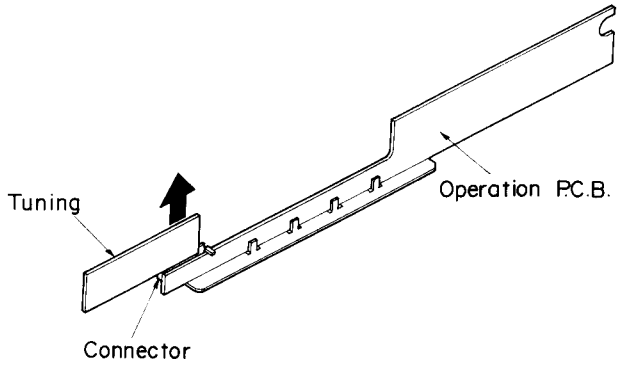


1. Remove the 7 screws (❶~❼).

Ref. No. 5	Removal of the sub panel
Procedure 1→2→3→4→5	

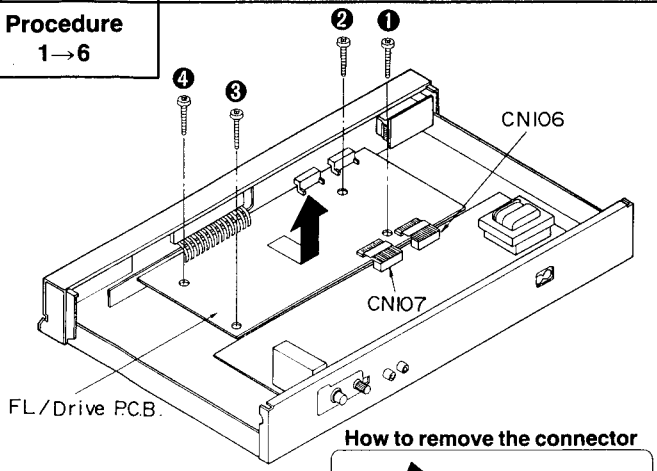


●Remove the 9 claws (❶~❾).

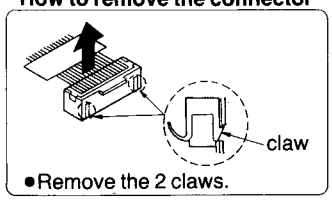


2. Remove the tuning P.C.B. in the direction of the arrow.

Ref. No. 6	Removal of the FL Drive P.C.B.
Procedure 1→6	



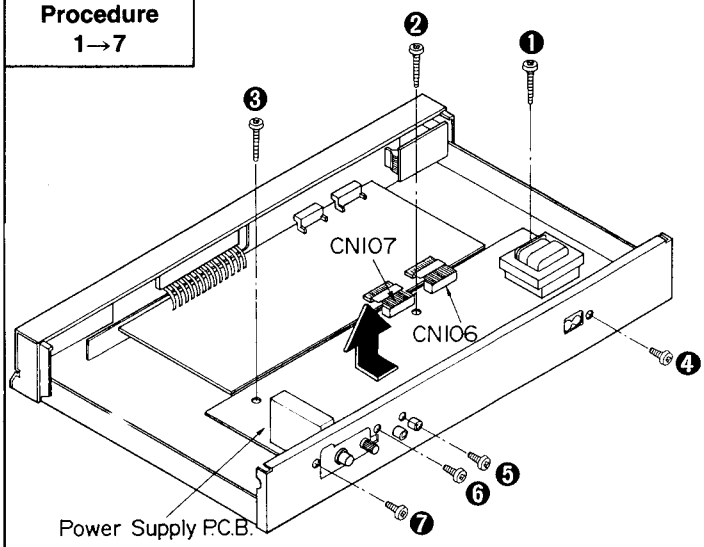
How to remove the connector



●Remove the 2 claws.

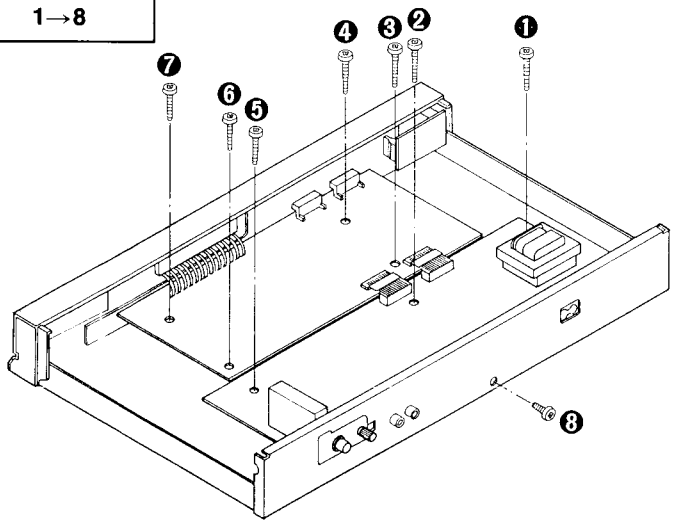
1. Remove the 4 screws (❶~❹).
2. Remove the 2 connectors (CN106, CN107).
3. Remove the FL drive P.C.B. in the direction of the arrow.

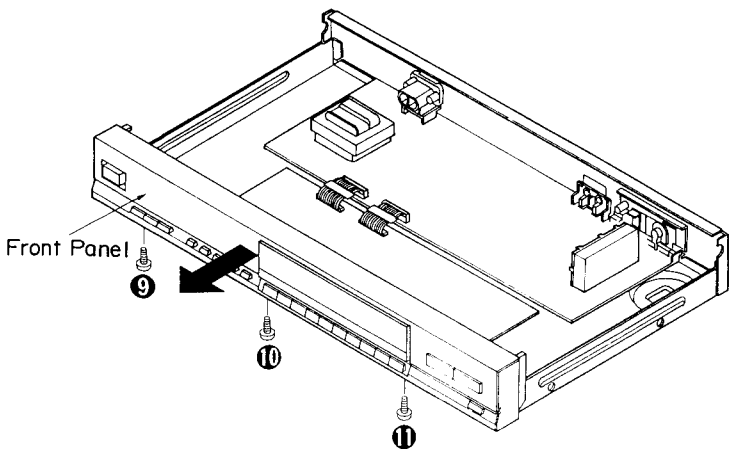
Ref. No. 7	Removal of the power supply P.C.B.
Procedure 1→7	



1. Remove the 7 screws (❶~❼).
2. Remove the 2 connectors (CN106, CN107).
3. Remove the power supply P.C.B. in the direction of the arrow.

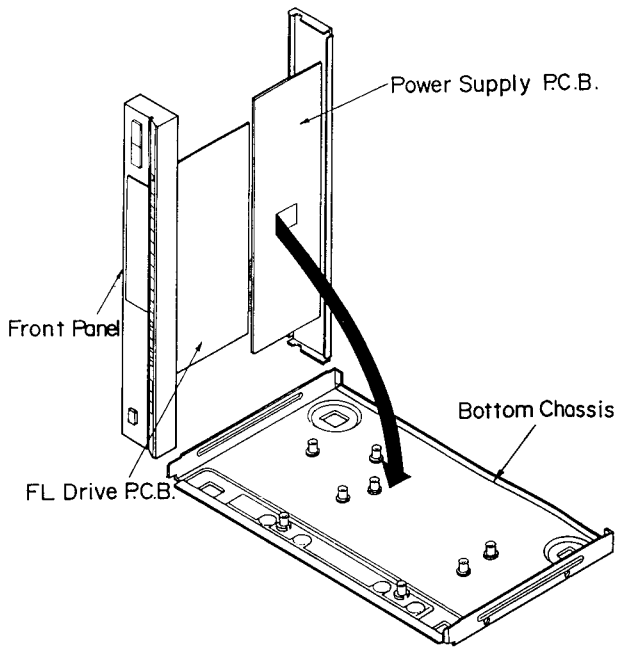
Ref. No. 8	Checking of the FL drive P.C.B. and power supply P.C.B.
Procedure 1→8	





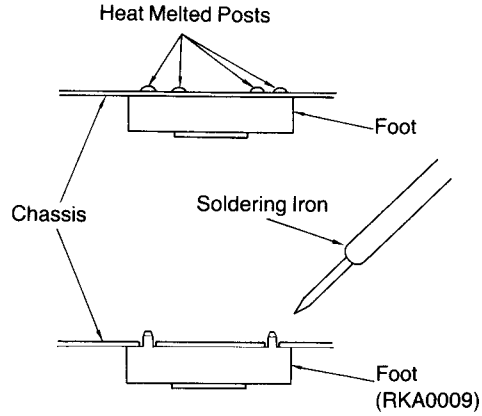
●When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.

1. Remove the 11 screws (❶~⓫).
2. Pull out the front panel in the direction of the arrow Ⓐ.
3. Remove the bottom chassis in the direction of the arrow Ⓑ.
4. Reinstall the front panel to the FL drive P.C.B.



•Replacement of the Foot.

1. Remove the 4 heat melted posts on the chassis with a pair of nippers or similar tool.
2. To replace the foot (RKA0009) on the chassis, melt the 4 posts with a soldering iron.



■ MEASUREMENTS AND ADJUSTMENTS

■ LW/MW/FM

Control positions and equipment used

- AM and FM signal generator(AM and FM-SG)
- Stereo modulator
- Distortion analyser
- Oscilloscope
- Frequency counter.
- Choke coil (100μH)
- Resistor(100kΩ)
- Ceramic capacitor(200pF)
- AC and DC electronic voltmeter(EVM)

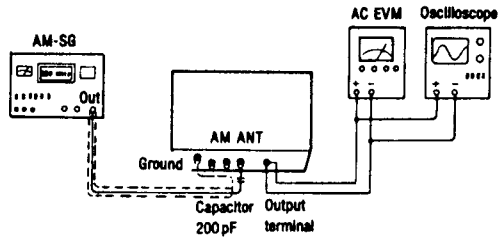
Note: For **Z202**, **L303** and **L304**, they are supplied as adjusted parts. So, do not turn the cores of the parts.

MW-RF ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**MW**" mode.
3. Set the radio frequency display and signal generator to **612kHz**.
4. Set the radio frequency display and signal generator to **1503kHz**.
5. Adjust **Z201** (MW ANT coil) for maximum output.
6. Repeat steps 3~5.

Note: Antenna input level must be as low as possible being free from AGC.

AM SIGNAL GENERATOR CONDITION
Modulation 30%
Modulation frequency 400Hz

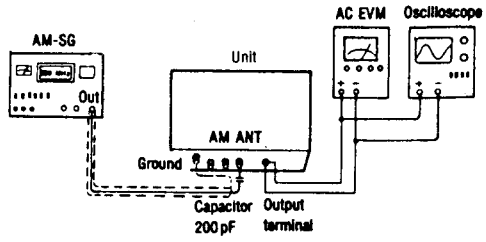


LW-RF ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**LW**" mode.
3. Set the radio frequency display and signal generator to **155kHz**.
4. Set the radio frequency display and signal generator to **353kHz**.
5. Adjust **Z201** (LW ANT coil) for maximum output.
6. Repeat steps 3~5.

Note: Antenna input level must be as low as possible being free from AGC.

AM SIGNAL GENERATOR CONDITION
Modulation 30%
Modulation frequency 400Hz

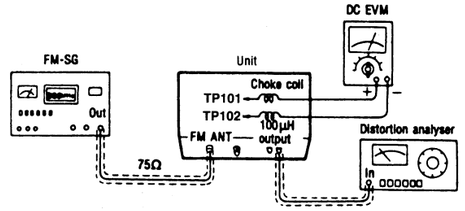


FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to **"FM"** mode.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Adjust the core of **T101** so that the voltage measured in signal mode is **0mV (0±20 mV)** in 300 mV range.
5. Adjust **T102** so that the distortion factor of L-CH is minimized.
6. Repeat steps 4 and 5.
7. Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

Note: The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 1kHz
Output level 66dB



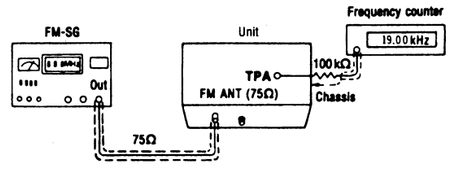
MPX VCO ADJUSTMENT

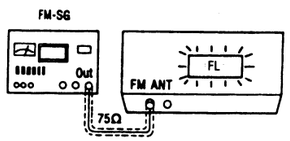
1. Test equipment connection is shown in figure.
2. Set the unit to **"on/auto"** position.
3. Set the radio frequency display and signal genarator to **100.10MHz.**
4. Adjust **VR302** for **19kHz±30Hz** on frequency counter reading.

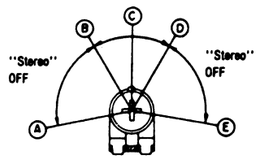
•USING ALTERNATE SYSTEM

1. Apply stereo signal from generator or receive the stereo broadcast.
2. Adjust **VR302** until stereo indicator lights up. Fix the arm of **VR302** as shown in figure.

FM SIGNAL GENERATOR CONDITION
Modulation 0%
Modulation frequency 0
Output level 66dB







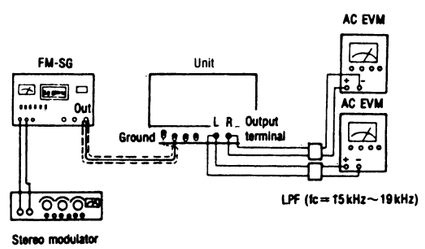
VR302

Ⓐ−Ⓑ, Ⓓ−Ⓔ..... "Stereo" OFF position
Ⓑ−Ⓓ..... "Stereo" ON position (Indicator lighting)
Ⓒ..... Adjust point of pilot circuit

SEPARATION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to **"FM"** mode.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Adjust **VR301** so that the R-CH output is minimized when stereo modulator is in "L"(L-CH modulation) mode.

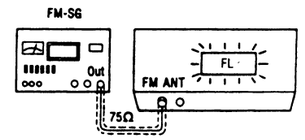
FM SIGNAL GENERATOR CONDITION
Modulation.....Stereo "L" mode or "R" mode 45%, Pilot 10%
Modulation frequency .....1kHz(Pilot 19kHz)
Output level 66dB



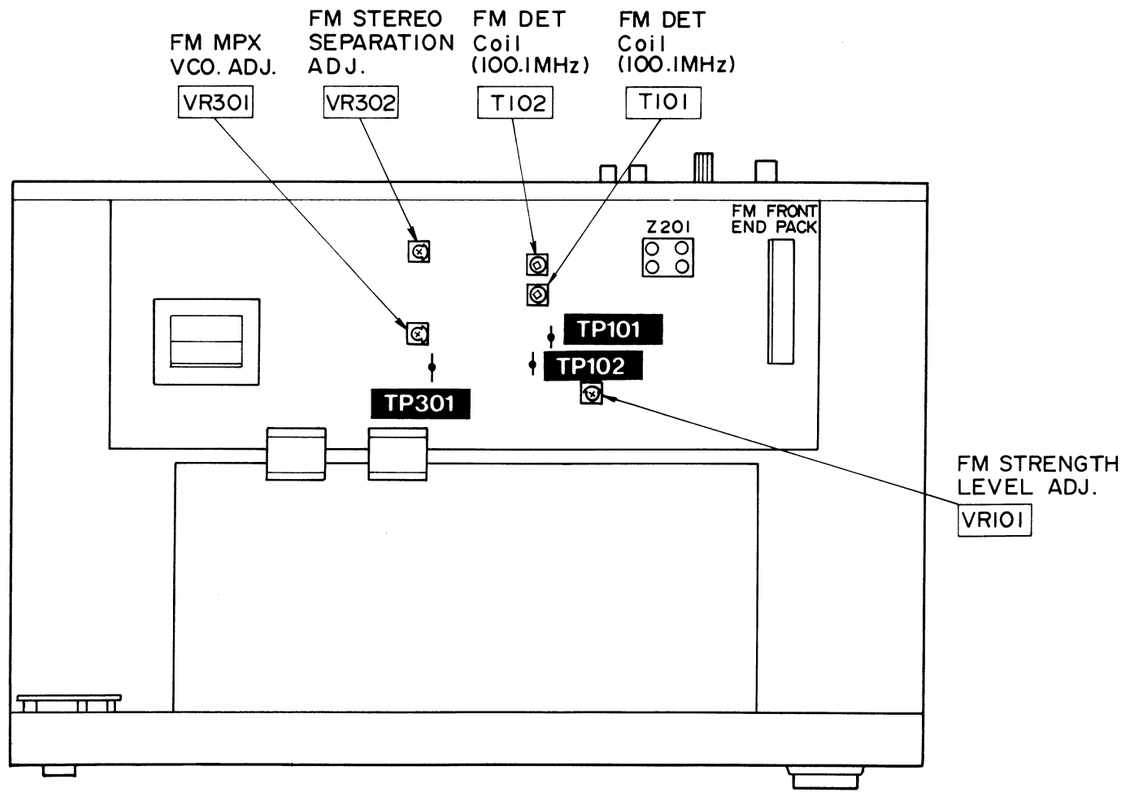
FM SIGNAL STRENGTH LEVEL ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to **"FM and IF normal"** mode.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Change FL display from "frequency" to "dB" by pressing the FM signal button.
5. Adjust **VR101** so that **54dB** is indicated. **"54dB"** is indicated on the FL display.
6. Repeat steps 4, 5.

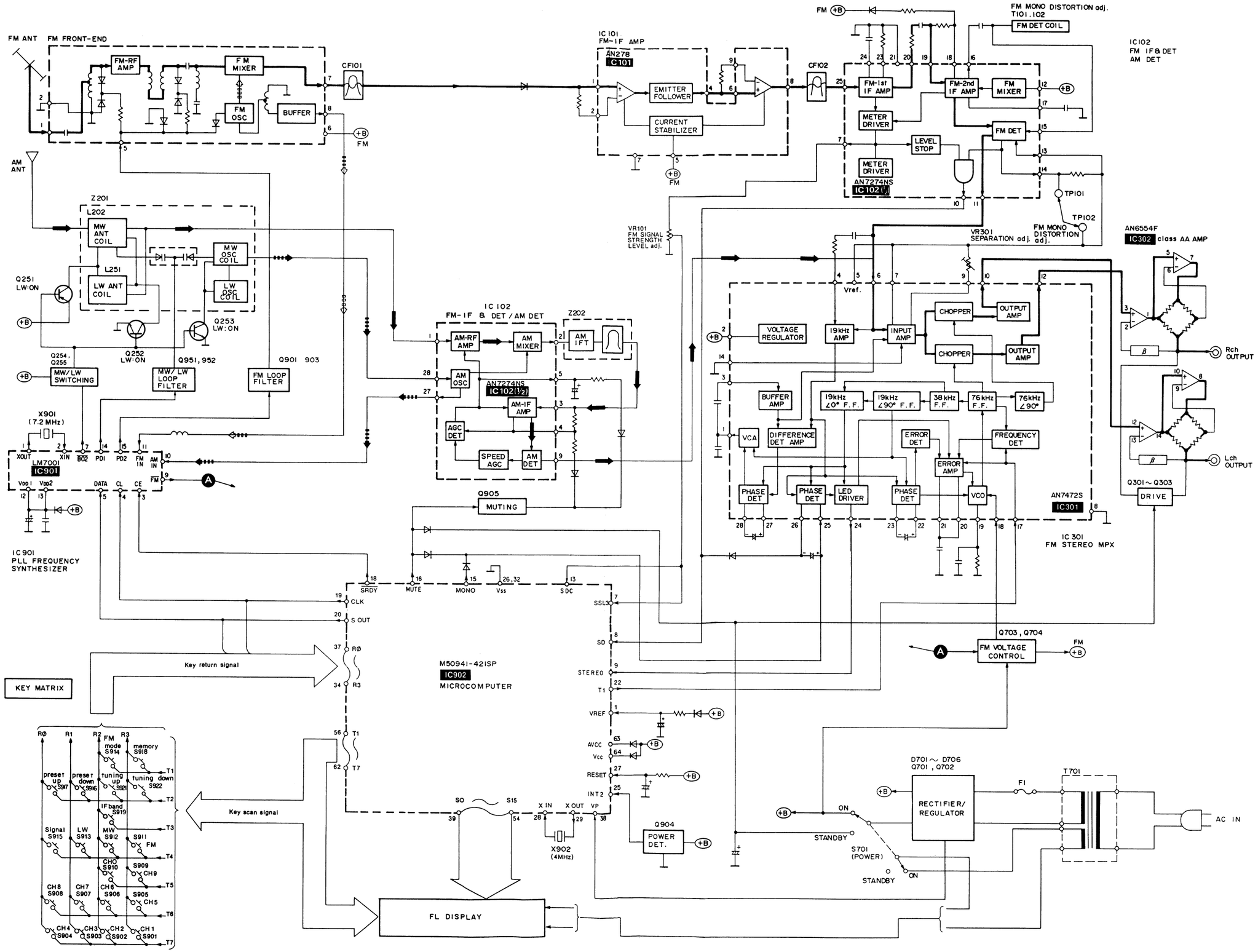
FM SIGNAL GENERATOR CONDITION
Modulation 30%
Modulation frequency.....1kHz
Output level 60dB

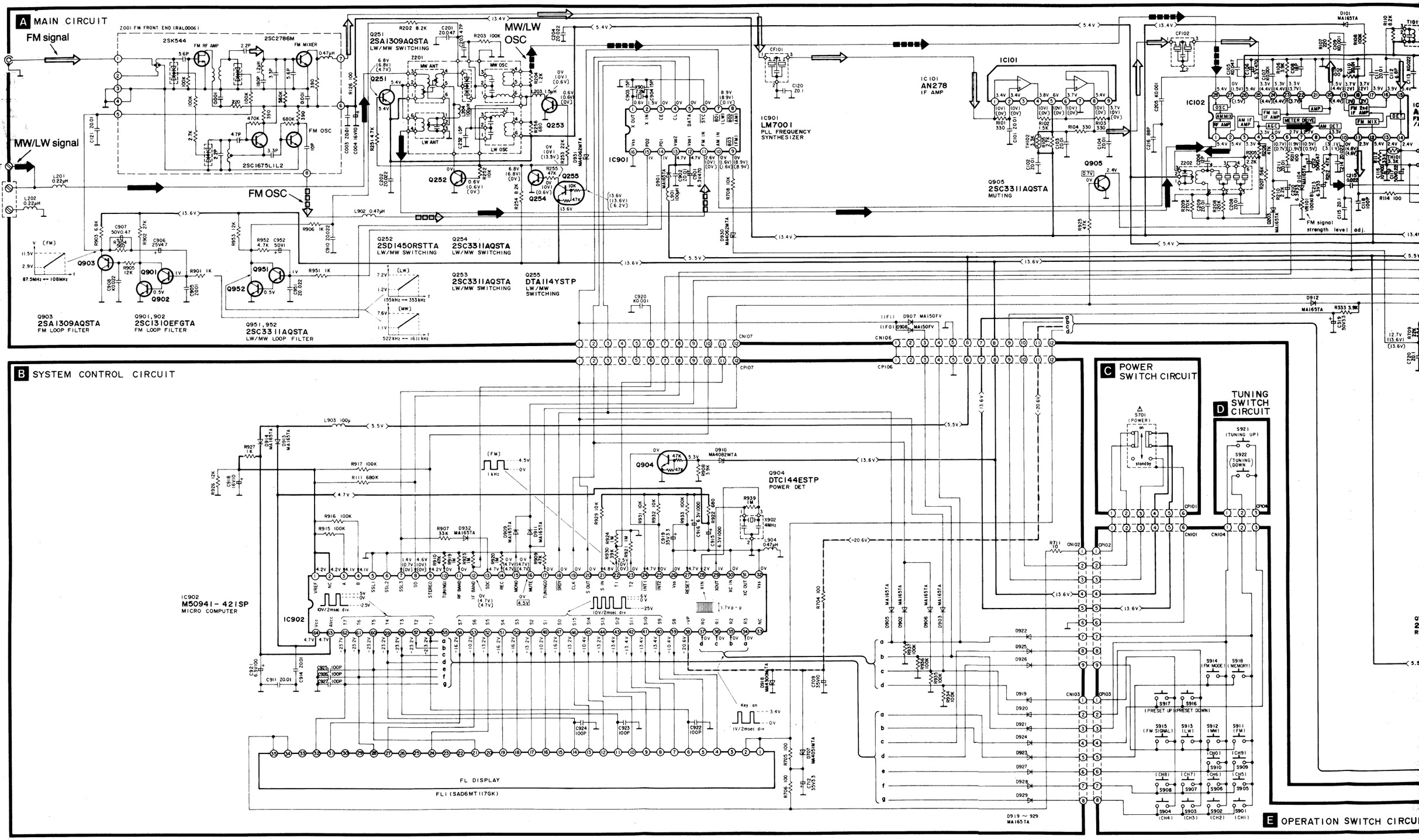


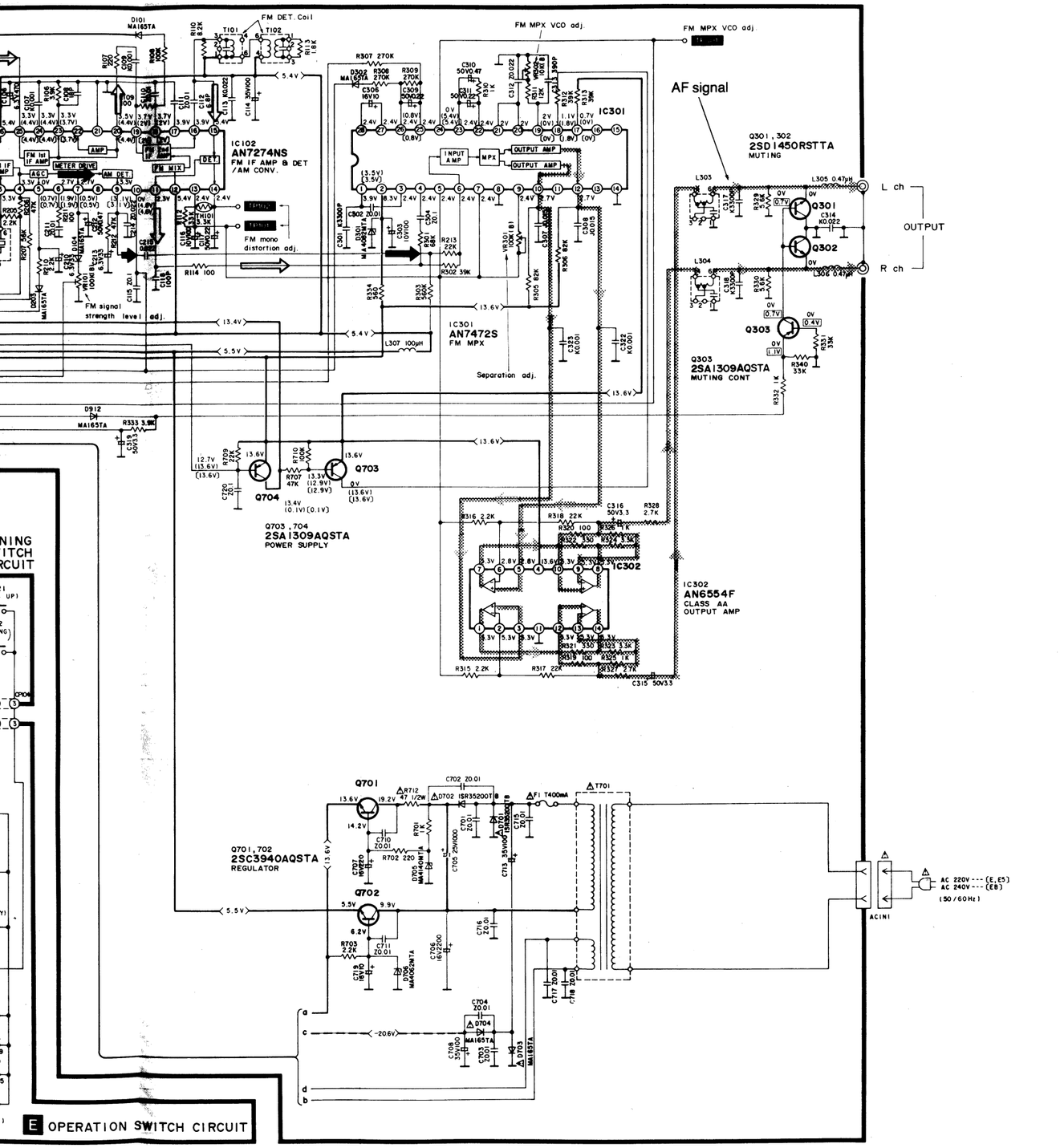
•Adjustment points.



■ BLOCK DIAGRAM




A MAIN CIRCUIT
FM signal
MW/LW signal
FM ANT (75Ω)
AM ANT
AM LOOP ANT
AN101
2001 FM FRONT END (RAL0006)
2SK544
2SC2786M
FM RF AMP
FM MIXER
FM OSC
2SC1675L1L2
MW/LW OSC
Q251 2SA1309AQSTA LW/MW SWITCHING
Q252 2SD1450RSTTA LW/MW SWITCHING
Q253 2SC3311AQSTA LW/MW SWITCHING
Q254 2SC3311AQSTA LW/MW SWITCHING
Q255 DTA114YSTP LW/MW SWITCHING
Q903 2SA1309AQSTA FM LOOP FILTER
Q901,902 2SC1310EFGTA FM LOOP FILTER
Q951,952 2SC3311AQSTA LW/MW LOOP FILTER
IC901 LM7001 PLL FREQUENCY SYNTHESIZER
IC101 AN278 IF AMP
Q905 2SC3311AQSTA MUTING
IC102
FM signal strength level adj.
B SYSTEM CONTROL CIRCUIT
IC902 M50941-421SP MICRO COMPUTER
Q904 DTC144ESTP POWER DET
FL DISPLAY
FL1 (SAD6MT117GK)
C POWER SWITCH CIRCUIT
D TUNING SWITCH CIRCUIT
E OPERATION SWITCH CIRCUIT



■ SCHEMATIC DIAGRAM (Parts list on page 19~21)

(This schematic diagram may be modified at any time with the development of new technology.)

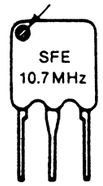
Note 1:

- **•S701:** Power switch.
- **•S901~S910:** Preset tuning switches.
  S901: CH1, S902: CH2, S903: CH3, S904: CH4, S905: CH5, S906: CH6, S907: CH7, S908: CH8, S909: CH9, S910: CH0
- **•S911~S913:** Band selector switches.
  S911: FM, S912: MW, S913: LW
- **•S914:** FM mode selector switch.
- **•S915:** FM signal ON/OFF switch.
- **•S916, S917:** Preset channel switches.
  S916: DOWN, S917: UP
- **•S918:** Memory switch.
- **•S921, S922:** Tuning switches.
  S921: UP, S922: DOWN

Note 2:

• Use of ceramic filters in pairs
The ceramic filters (CF101, CF102) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair. At repairing and replacement, pay close attention to the diodes (D907, D908) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking
(Red, Black or White)



RANK (Color)	D907	D908	CENTER FREQUENCY
Orange	○	○	10.72 MHz
Red	×	×	10.70 MHz
Blue	×	○	10.67 MHz

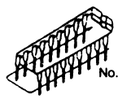
Note: ○ mark: Diode is used.
× mark: Diode is not used.

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester. ( ): AM voltage
- ——— Positive voltage lines
  ▭▭▭▷ FM OSC
  ▬▬▬▶ AM OSC
  ⋯⋯⋯ AF signal lines
  ⇨ FM signal
  ➡ AM signal
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

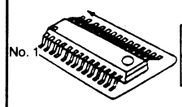
✻ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
✻ Cover the parts boxes made of plastics with aluminum coil.
✻ Ground the soldering iron.
✻ Put a conductive mat on the work table.
✻ Do not touch the legs of IC or LSI with the fingers directly.

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

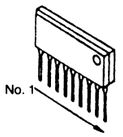


AN6554F	14 pin
LM7001	16 pin
M50941-421SP	64 pin

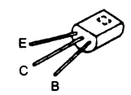


AN7274NS	28 pin
AN7472S	

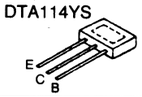
AN278 | 9 pin



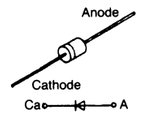
2SC1310, 2SC3940



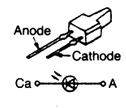
2SA1309, 2SC3311
2SD1450,
DTC1444ES,
DTC114YS
DTA114YS



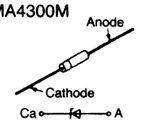
MA165, MA150FV
1SR35200



LN446YP, LN846RP

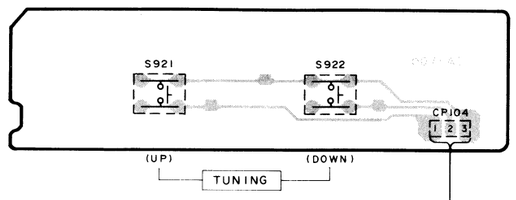


MA4062, MA4082M
MA4140M, MA4051M
MA4300M

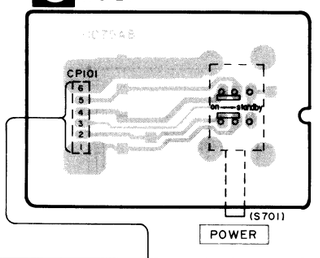


■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

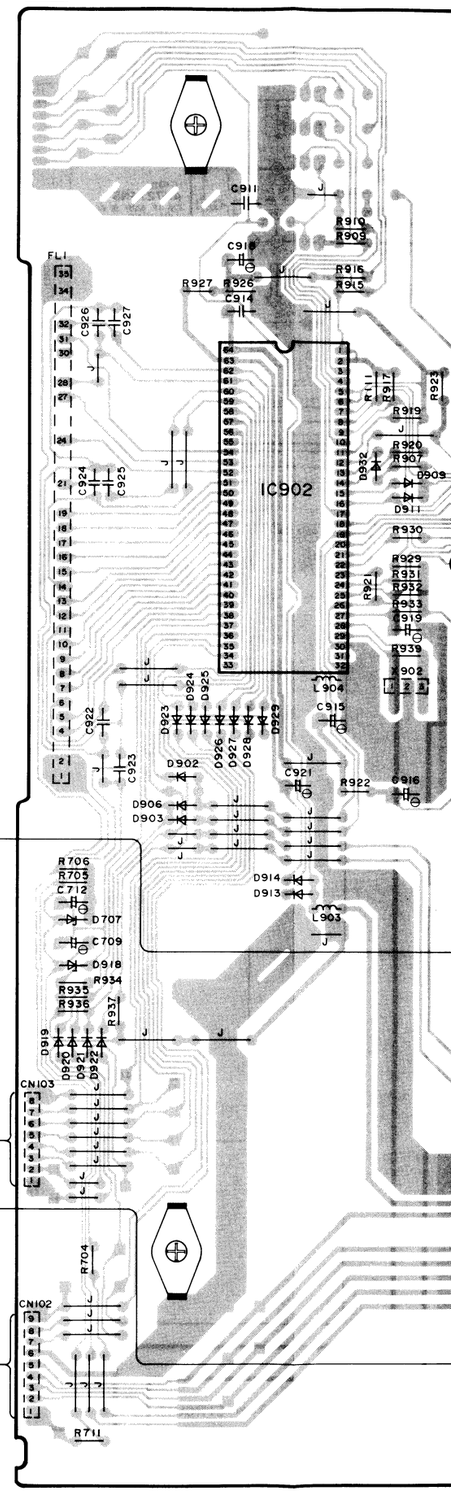
D TUNING SWITCH P.C.B.



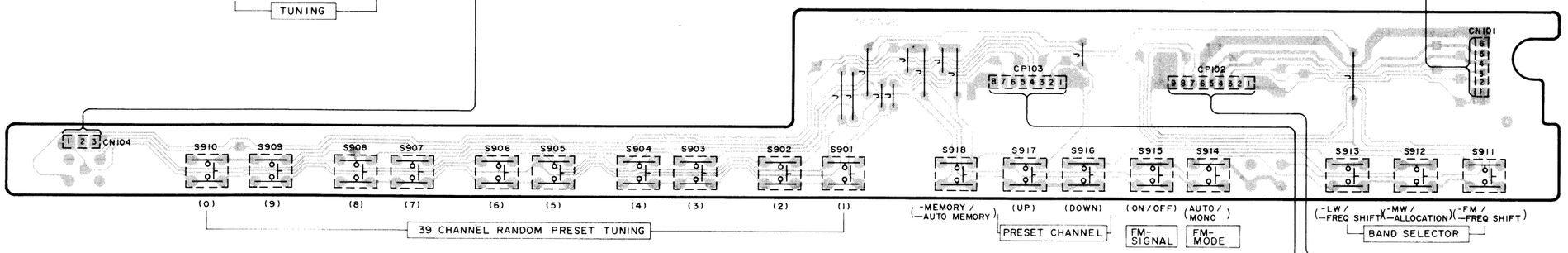
C POWER SWITCH P.C.B.



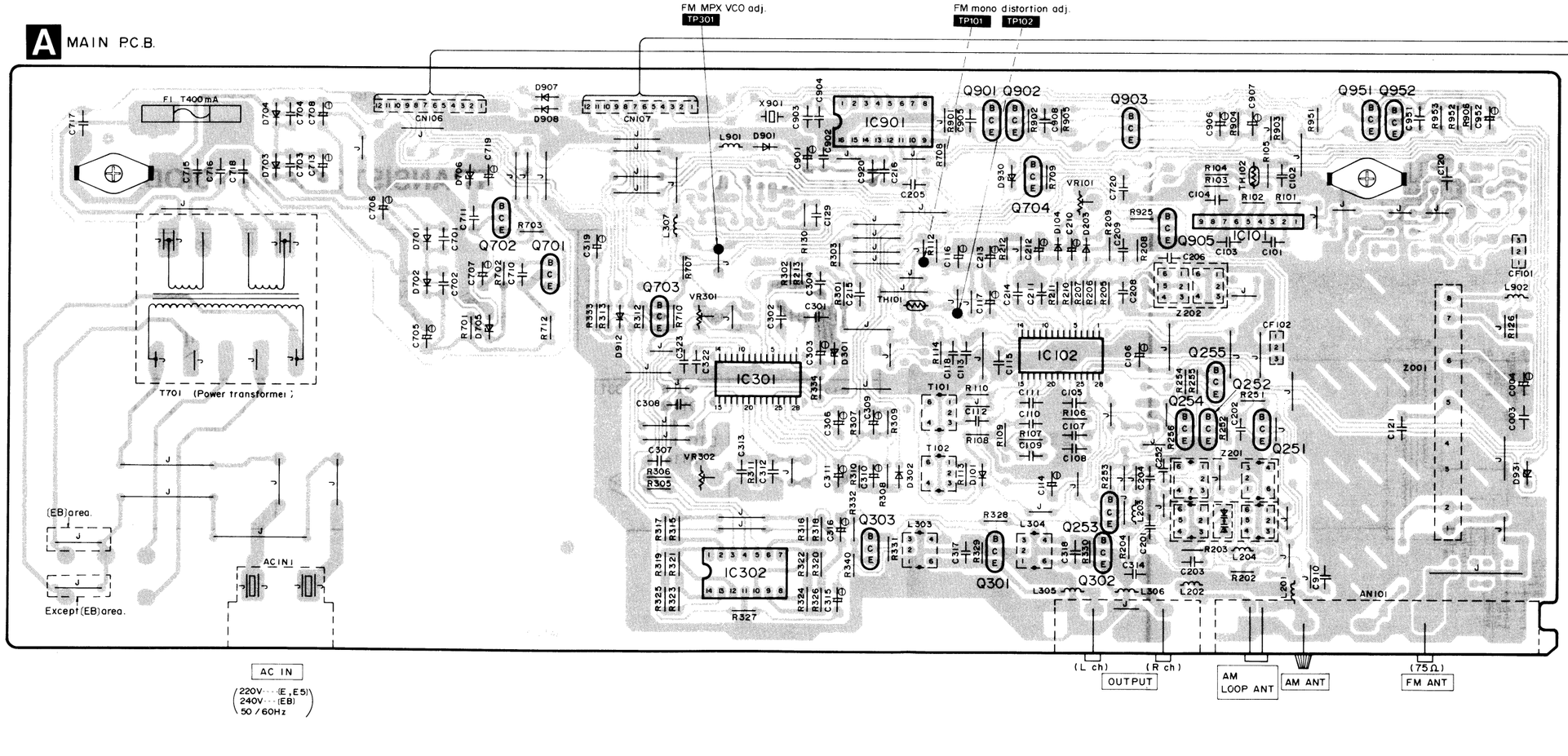
B SYSTEM CONTROL P.C.B.



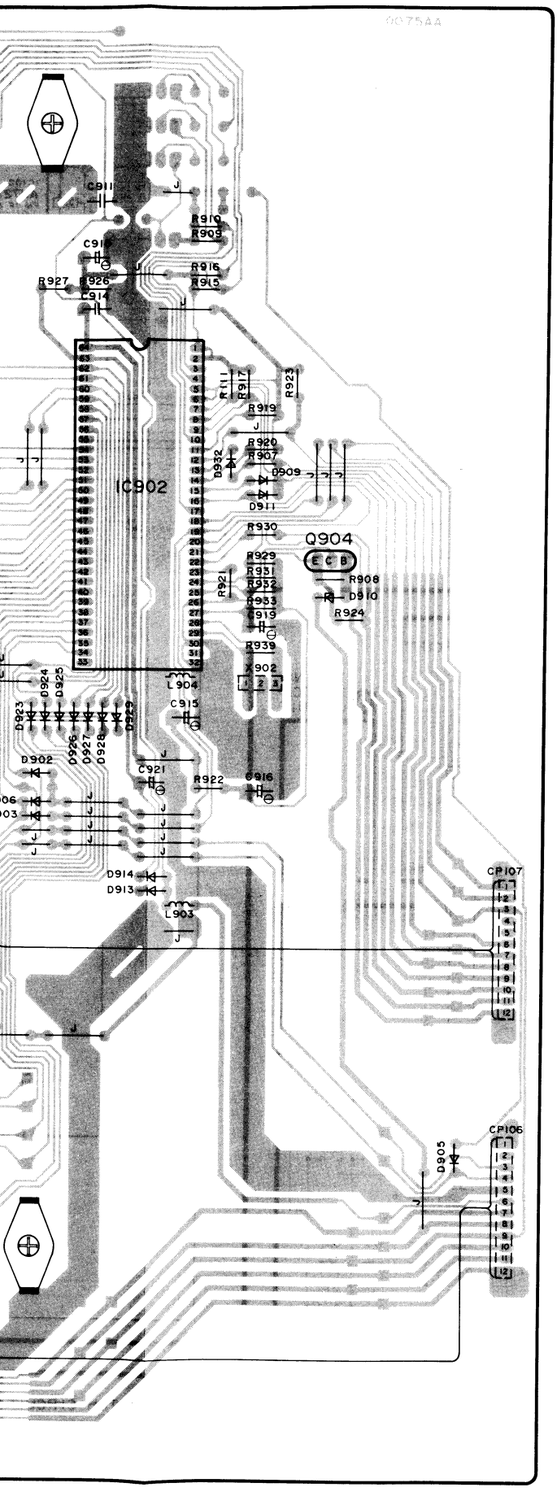
E OPERATION SWITCH P.C.B.



A MAIN P.C.B.



M CONTROL PC.B.

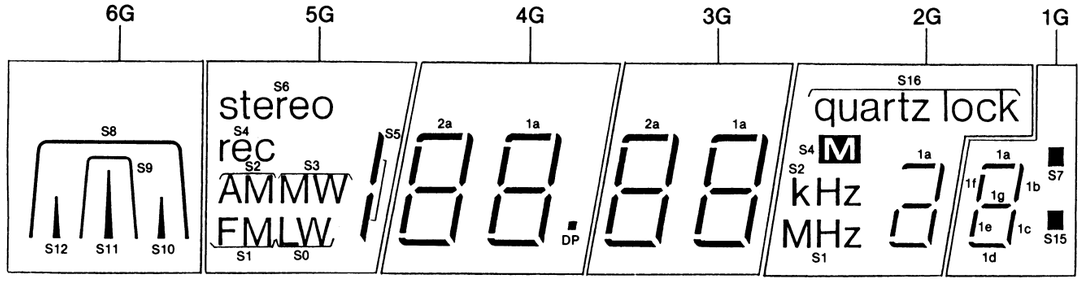


■ FUNCTIONS OF IC TERMINALS (IC902: M50941-421SP)

PIN NO.	IN/OUT	MARK	DESCRIPTION OF TERMINAL
1	INPUT	VREF	Reference voltage terminal.
2	——	NC	Not used in this unit.
3	——	A	Not used in this unit, connected to GND.
4		B	
5 • 6	——	SSL1 • SSL2	
7	INPUT	SSL3	FM signal level detector terminal.
8	INPUT	SD	Station detection of auto tuning terminal. • Received: "H", No signal: "L"
9	INPUT	STEREO	Reference voltage terminal.
10 • 17	——	TUNING 0 • TUNING 1	Not used in this unit.
11	——	RF BAND	Not used in this unit.
12	OUTPUT	IF BAND	FM IF BAND selector terminal. • "normal": "L", "super narrow": "H"
13	——	NC	Not used in this unit.
14	——	REC	Not used in this unit.
15	OUTPUT	MONO	Forcible monaural selection terminal. 4.8V / 0 — Forcible monaural mode
16	OUTPUT	MUTE	Terminal to eliminate shock noise due to unlocking at PLL. 〈Muting output〉 • Pin 25 (CE) is "L"→"H" or "H"→"L" • Power switch "off". • Frequency change. (up/down, FM↔AM (MW/LW), REC). • FM RF/IF selection.
18	OUTPUT	$\overline{SRDY}$	PLL data output terminal. $\overline{SRDY}$: serial I/O enable signal, CLK: clock signal, SOUT: serial data signal.
19		CLK	
20		SOUT	
21	INPUT	SIN	Control input terminal.
22	OUTPUT	T1	Clock pulse waveform output terminal. • FM: 1kHz signal (duty 50%)
23	——	T2	Not used in this unit.
24	INPUT	$\overline{INT1}$	Remote control input terminal. Not used in this unit.
25	INPUT	$\overline{INT2}$	Power supply detection terminal.
26 • 32	——	Vss	Ground terminal.
27	INPUT	RESET	Reset signal terminal.
28	INPUT	XIN	Connecting terminal for crystal oscillator.
29	OUTPUT	XOUT	
30	——	XCIN	Not used in this unit, connected to GND.
31	——	XCOUT	Not used in this unit.
33	——	NC	
34 ⌇ 37	INPUT	R0 ⌇ R3	Terminal for key return signal to external key matrix. 3.6V / 0 — 1V/2msec. div.
38	INPUT	VP	Power supply terminal for FL display.
39 ⌇ 54	OUTPUT	S0 ⌇ S15	Segment signal terminal for FL display. 5V / 0V / −26.0V — 10V/5msec. div.
55	——	NC	Not used in this unit.
56 ⌇ 62	OUTPUT	T1 ⌇ T7	Terminal for key scan signal to external key matrix and grid signal terminal for FL display. 5V / 0V / −26.0V — 10V/2msec. div.
63	INPUT	AVcc	Power supply terminal of device.
64	INPUT	Vcc	

■ DESCRIPTION OF FL PANEL

• GRID ASSIGNMENT



• PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	F1	F1	NP	S8	S9	6G	S10	S11	S12	S13	5G	S14	S15	4G	S0	S1	S2	S3	S4	NP	3G	NP	NP	S5	NP	NP	S6	2G	NP	S16	S7	1G	NP	F2	F2

• ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
S0	-	LW	2d	2d	-	-
S1	-	FM	2e	2e	MHz	-
S2	-	AM	2c	2c	kHz	-
S3	-	MW	2g	2g	-	-
S4	-	rec	2f	2f	M	-
S5	-	/	2b	2b	-	-
S6	-	stereo	2a	2a	-	-
S7	-	-	-	-	-	■
S8	⌈	-	1d	1d	1d	1d
S9	⌈	-	1e	1e	1e	1e
S10	▏	-	1c	1c	1c	1c
S11	▏	-	1g	1g	1g	1g
S12	▏	-	1f	1f	-	1f
S13	-	-	1b	1b	1b	1b
S14	-	-	1a	1a	1a	1a
S15	-	-	DP	-	-	■
S16	-	-	-	-	quartz lock	-

■ REPLACEMENT PARTS LIST

Notes: •Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
•The parenthesized indications in the Remarks columns specify the areas. (Refer to the first page for area.)
Parts without these indications can be used for all areas.
•[F]: Indicates parts that are supplied by PFS. (Panasonic France S.A. Longwy division).

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R101	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R102	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R103, 104	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R105	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R106	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R107	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R108	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R109	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R110	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R111	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R112	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R113	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R114	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R126	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R202	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R203	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R204	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R205	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R206	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R207	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R208	ERDS2TJ124T	C. RESISTOR 1/4W 120K	
R209	ERDS2TJ274T	C. RESISTOR 1/4W 270K	
R210	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R211	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R212	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R213	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R251	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R252	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R253	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R254	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R255	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R256	ERDS2TJ681T	C. RESISTOR 1/4W 680	
R301	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R302	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R303	ERDS2TJ564T	C. RESISTOR 1/4W 560K	
R305, 306	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R307~309	ERDS2TJ274T	C. RESISTOR 1/4W 270K	
R310	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R311	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R312, 313	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R315, 316	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R317, 318	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R319, 320	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R321, 322	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R323, 324	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R325, 326	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R327, 328	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R329, 330	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R331	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R332	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R333	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R334	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R340	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R701	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R702	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R703	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R704~706	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R707	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R708	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R709	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R710	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R711	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R712	ERDS1FVJ470T	C. RESISTOR 1/2W 47	⚠
R901	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R902	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R903	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R904	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R905	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R906	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R907	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R908	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R909, 910	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R915~917	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R919~921	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R922	ERDS2TJ681T	C. RESISTOR 1/4W 680	
R923, 924	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R925	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R926	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R927	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R929	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R930	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R931, 932	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R933~937	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R939	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R951	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R952	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R953	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
		CAPACITORS	
C003	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

Ref. No.	Part No.	Part Name & Description	Remarks
C004	ECEA1CK100B	E. CAPACITOR 16V 10U	
C101~104	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C105	ECQM1H473KV3	P. CAPACITOR 50V 0.047U	
C106	ECEA0JU471B	E. CAPACITOR 6.3V 470U	
C107	ECQM1H102KV3	P. CAPACITOR 50V 1000P	
C108	RCBS1H180JCY	C. CAPACITOR 50V 18P	
C109	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C110, 111	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C112	RCBS1H6R8KCY	C. CAPACITOR 50V 6.8P	
C113	ECQM1H223KV3	P. CAPACITOR 50V 0.022U	
C114	ECEA1VU101B	E. CAPACITOR 35V 100U	
C115	ECFR1E104ZFY	S. CAPACITOR 25V 0.1U	
C116	ECEA1AU101B	E. CAPACITOR 10V 100U	
C117	ECEA1HKR22B	E. CAPACITOR 50V 0.22U	
C118	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C120	ECFR1E104ZFY	S. CAPACITOR 25V 0.1U	
C121	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C201	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C202	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C203	RCBS1H4R7KCY	C. CAPACITOR 50V 4.7P	
C204	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C205	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C206	RCBS1H120JCY	C. CAPACITOR 50V 12P	
C208, 209	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C210	ECEA0JK330B	E. CAPACITOR 6.3V 33U	
C211	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C212	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C213	ECEA0JK330B	E. CAPACITOR 6.3V 33U	
C214	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C215	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C216	RCBS1H680JLY	C. CAPACITOR 50V 68P	
C252	RCBS1H150JCY	C. CAPACITOR 50V 15P	
C301	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C302	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C303	ECEA1AU101B	E. CAPACITOR 10V 100U	
C304	ECFR1E104ZFY	S. CAPACITOR 25V 0.1U	
C306	ECEA1CK100B	E. CAPACITOR 16V 10U	
C307, 308	ECQB1H153JZ3	P. CAPACITOR 50V 0.015U	
C309	ECEA1HKR22B	E. CAPACITOR 50V 0.22U	
C310	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C311	ECEA1HKR22B	E. CAPACITOR 50V 0.22U	
C312	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C313	ECQP1391JZ3	P. CAPACITOR 100V 3900P	
C314	ECQM1H223KV3	P. CAPACITOR 50V 0.022U	
C315, 316	ECEA1HPX3R3B	E. CAPACITOR 50V 3.3U	
C317, 318	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C319	ECEA1HPX3R3B	E. CAPACITOR 50V 3.3U	
C322, 323	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C701~704	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C705	ECEA1EU102E	E. CAPACITOR 25V 1000U	
C706	ECEA1CU222E	E. CAPACITOR 16V 2200U	
C707	ECEA1CU221B	E. CAPACITOR 16V 220U	

Ref. No.	Part No.	Part Name & Description	Remarks
C708	ECEA1VU101B	E. CAPACITOR 35V 100U	
C709	ECEA1VK100B	E. CAPACITOR 35V 10U	
C710, 711	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C712	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C713	ECEA1VU101B	E. CAPACITOR 35V 100U	
C715~718	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C719	ECEA1CK100B	E. CAPACITOR 16V 10U	
C720	ECFR1E104ZFY	S. CAPACITOR 25V 0.1U	
C901	ECEA0JU471B	E. CAPACITOR 6.3V 470U	
C902	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C903, 904	RCBS1H150JCY	C. CAPACITOR 50V 150P	
C905	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C906	ECEA25M4R7RB	E. CAPACITOR 25V 4.7U	
C907	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C908	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C910	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C911	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C914	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C915, 916	ECEA0JU102B	E. CAPACITOR 6.3V 1000U	
C918	ECEA1CK100B	E. CAPACITOR 16V 10U	
C919	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C920	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C921	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C922~927	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C951	ECBT1E223ZF5	C. CAPACITOR 25V 0.022U	
C952	ECEA1HK010B	E. CAPACITOR 50V 1U	

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC101	AN278	IC, BUFFER AMP	
IC102	AN7274NS	IC, FM IF AMP	
IC301	AN7472S	IC, FM MPX	
IC302	AN6554F	IC, CLASS AA OUTPUT AMP	
IC901	LM7001	IC, PLL FREQUENCY SYNTHE	
IC902	M50941-421SP	IC, MICRO COMPUTER	
		TRANSISTORS	
Q251	2SA1309AQSTA	TRANSISTOR	
Q252	2SD1450RSTTA	TRANSISTOR	
Q253, 254	2SC3311AQSTA	TRANSISTOR	
Q255	DTA114YSTP	TRANSISTOR	
Q301, 302	2SD1450RSTTA	TRANSISTOR	
Q303	2SA1309AQSTA	TRANSISTOR	
Q701, 702	2SC3940AQSTA	TRANSISTOR	
Q703, 704	2SA1309AQSTA	TRANSISTOR	
Q901, 902	2SC1310EFGTA	TRANSISTOR	
Q903	2SA1309AQSTA	TRANSISTOR	
Q904	DTC144ESTP	TRANSISTOR	
Q905	2SC3311AQSTA	TRANSISTOR	
Q951, 952	2SC3311AQSTA	TRANSISTOR	
		DIODES	
D101	MA165TA	DIODE	
D104	MA165TA	DIODE	
D203	MA165TA	DIODE	
D301	MA4082MTA	DIODE	
D302	MA165TA	DIODE	
D701, 702	1SR35200TB	DIODE	⚠
D703, 704	MA165TA	DIODE	⚠
D705	MA4140MTA	DIODE	
D706	MA4062MTA	DIODE	
D707	MA4051MTA	DIODE	
D901~903	MA165TA	DIODE	
D905, 906	MA165TA	DIODE	
D907, 908	MA150FV	DIODE	
D909	MA165TA	DIODE	
D910	MA4082MTA	DIODE	
D911~914	MA165TA	DIODE	
D918	MA4300MTA	DIODE	
D919~929	MA165TA	DIODE	
D930, 931	MA4062MTA	DIODE	
D932	MA165TA	DIODE	
		VARIABLE RESISTORS	
VR101	EVNDXAA00B15	V. R, STRENGTH LEVEL ADJ.	

Ref. No.	Part No.	Part Name & Description	Remarks
VR301	EVNDXAA00B15	V. R, FM MPX VCO ADJ.	
VR302	EVNDXAA00B14	V. R, STEREO SEPARATION ADJ.	
		THERMISTOR	
TH101, 102	ERTD2ZHL332T	THERMISTOR	
		COMPONENT COMBINATIONS	
Z001	RAL0006	COMPONENT COMBINATION	
Z201	SLA6Z1-T	COMPONENT COMBINATION	
Z202	RL12Z002-W	COMPONENT COMBINATION	
		COILS	
L201, 202	ELEPKR22MA	COIL	
L203	RLQZP1R5KT-Y	COIL	
L204	RLQZP101KT-Y	COIL	
L303, 304	SLM1B9-P	COIL	
L305, 306	RLQZPR47KT-Y	COIL	
L307	RLQZP101KT-Y	COIL	
L901	RLQZP101KT-Y	COIL	
L902	RLQZPR47KT-Y	COIL	
L903	RLQZP101KT-Y	COIL	
L904	RLQZPR47KT-Y	COIL	
		TRANSFORMERS	
T101	RLI4B005-Z	TRANSFORMER	
T102	RLI4B006-Z	TRANSFORMER	
T701	SLT5K264-K	POWER TRANSFORMER	⚠
		FILTERS	
CF101	SVFE107MZ2-A	CERAMIC FILTER	(RED)
CF101	SVFE107MZ2-B	CERAMIC FILTER	(BLUE)
CF101	SVFE107MZ2-C	CERAMIC FILTER	(ORANGE)
CF102	SVFE107MX2-A	CERAMIC FILTER	(RED)
CF102	SVFE107MX2-B	CERAMIC FILTER	(BLUE)
CF102	SVFE107MX2-C	CERAMIC FILTER	(ORANGE)
		OSCILLATORS	
X901	SVQ49U722T-S	OSCILLATOR	
X902	EF0GC4004T4	OSCILLATOR	

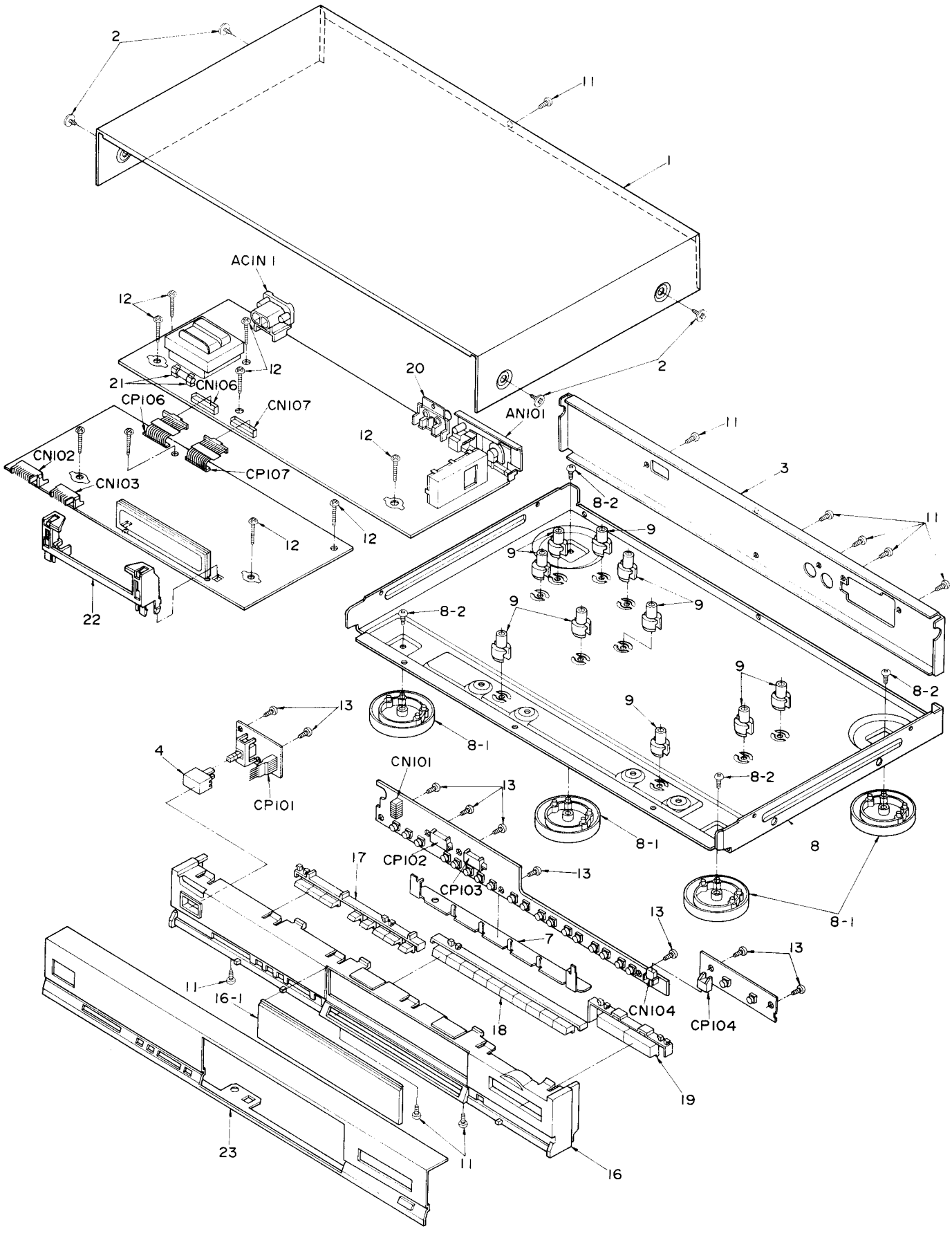
Ref. No.	Part No.	Part Name & Description	Remarks
		SWITCHES	
S701	SSH1218	POWER SWITCH	⚠
S901~918	EVQQB005R	PUSH SWITCHES	
S921, 922	EVQQB005R	PUSH SWITCHES	
		DISPLAY	
FL1	SAD6MT117GK	DISPLAY TUBE	
		FUSE	
F1	XBA2C04TB0	FUSE, 250V T0.4A	⚠

Ref. No.	Part No.	Part Name & Description	Remarks
		JACKS	
ACIN1	SJS9236	AC INLET	⚠
AN101	SJF8305N	TERMINAL BOARD, ANT	
CN101	SJS50681BB	CONNECTOR(6P)	
CN102	RJU003K009M	CONNECTOR(9P)	
CN103	RJU003K008M	CONNECTOR(8P)	
CN104	SJS50382JQH	SOCKET(3P)	
CN106, 107	RJU005W012	CONNECTOR(12P)	
CP101	SJT30648BB	CONNECTOR(6P)	
CP102	RJT003K009M	CONNECTOR(9P)	
CP103	RJT003K008M	CONNECTOR(8P)	
CP104	SJT30345JQ	CONNECTOR(3P)	
CP106, 107	RJT005W012	CONNECTOR(12P)	

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0032-K	CABINET	
2	SNE2129-1	SCREW	
3	RGR0018A-M	REAR PANEL	(E)
3	RGR0044	REAR PANEL	(E5)
3	RGR0045	REAR PANEL	(EF) F
3	RGR0018A-N	REAR PANEL	(EB)
4	RGU0030	POWER BUTTON	
7	RMA0074	HOLDER	
8	RXK0045	CHASSIS	
8-1	RKA0009-1	FOOT	
8-2	XTB3+6J	SCREW	
9	SHE187-2	HOLDER	
11	XTBS3+8JFZ1	SCREW	
12	XTB3+20JFZ	SCREW	
13	XTB3+8JFZ	SCREW	
16	RGK0090B-K	FRONT GRILL	
16-1	RKW0030	PANEL	
17	RGU0111-K	FUNCTION BUTTON	
18	RGU0112-K	PRESET BUTTON	
19	RGU0114-K	TUNING BUTTON	
20	RJH3201N	TERMINAL BOARD	
21	SJT390	FUSE HOLDER	⚠
22	RMR0128	FL HOLDER	
23	RYP0096	FRONT PANEL	

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIAL	
P1	RPG0142	CARTON BOX	(E, E5, EB)
P1	RPG0152	CARTON BOX	(EF) F
P2	SPSD152	ACCESSORIES BOX	
P3	RPN0124	PAD	
P4	XZB60X60A01	PROTECTION COVER	
		ACCESSORIES	
A1	RQF0309	INSTRUCTIONS MANUAL	(E, E5)
A1	RQT0118G	INSTRUCTIONS MANUAL	(EF) F
A1	RQT0118B	INSTRUCTIONS MANUAL	(EB)
A2	SFDAC05E03	AC CORD	⚠(E, E5, EF)
A2	SJA193	AC CORD	⚠(EB)
A3	SJP2276	CORD	
A4	SPB1162T	AM LOOP ANTENNA	
A4-1	SMA233-1M	HOLDER	
A4-2	SMA231M	HOLDER	
A4-3	XTB3+10AFZ	SCREW	
A5	SSA270M	FM ANTENNA	
A6	SJP9009	AC PLUG ADAPTOR	⚠(EB)

■ EXPLODED VIEW (Parts list on page 22)



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ORDER NO. AD8911348S0
A 2

Service Manual

Tuner

Supplement

ST-G460
ST-G460L

Color

(K)...Black Type

Please file and use this supplement manual together with the service manual for Model No. ST-G460, Order No. AD8906195C1 (P, PC areas), or AD8906183C8 (EG, Ei, G, GN, PX areas) and ST-G460L, Order No. AD8905129C8 (E, E5, EB, EF areas).

Area

Country Code	Area	Color
(P)	U.S.A	(K)
(PC)	Canada	(K)
(EG)	F.R. Germany	(K)
(Ei)	Italy	(K)
(G)	Third Region	(K)
(GN)	Oceania	(K)
(PX)	Far East-PX and Europe PX	(K)
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	(K)
(EF)	France	(K)

Note:

- The purpose of this supplement is to correct errors in the "Replacement Parts List". Please correct your service manual as follows.

CORRECTION

■ PEPLACEMENT PARTS LIST

ST-G460 (Page 20 of service manual.)

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	Original	**New**		
CABINET AND CHASSIS				
16	RGK0090B-K	**RFKNTG460EGK**	GRILL	
23	RYP0122	**RFKGTG460P-K**	FRONT PANEL	(P, PC) areas
23	RYP0121	**RFKGTG460EGK**	FRONT PANEL	(EG, Ei, G, GN, PX) areas

ST-G460L (Page 22 of service manual.)

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	Original	**New**		
CABINET AND CHASSIS				
16	RGK0090B-K	**RFKNTG460EGK**	FRONT GRILL	
23	RYP0096	**RFKGTG460LEK**	FRONT PANEL	

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